

**AMENDMENT**

Please amend the claims as indicated hereafter.

**Listing of Claims**

1           1.     (Original) A system for reassembling asynchronous transfer mode  
2     (ATM) data in real time, comprising:  
3           a circular buffer for storing ATM data, the ATM data comprising information  
4     divided into cells; and  
5           a plurality of parallel processing elements configured to analyze the ATM cells  
6     and determine a cell type, wherein ATM adaptation layer (AAL) 2 cells and AAL 5  
7     cells are reassembled in real-time.

1           2.     (Currently amended) The system of claim 1, wherein the circular buffer  
2     communicates with the plurality of parallel processing elements simultaneously.

1           3.     (Original) The system of claim 2, further comprising a fragmentation  
2     table configured to receive and store data fragments associated with an ATM cell.

1           4.     (Original) The system of claim 3, further comprising a buffer manager  
2     configured to accumulate the data fragments and assemble the data fragments into a  
3     frame.

1           5.     (Original) The system of claim 4, further comprising a statistics  
2     memory configured to store statistics associated with the cells.

1           6.     (Original) The system of claim 5, wherein the statistics are chosen from  
2     an idle cell, an unassigned cell, an operation and maintenance (OAM) cell, an AAL 2  
3     cell, an AAL 5 cell, a header error correction (HEC) error cell, a frame count, a byte  
4     count, congestion information, AAL5 CRC error count, and resource management  
5     (RM) cell count.

1           7.       (Original) The system of claim 6, wherein the statistics are gathered for  
2 each unique VPI/VCI cell stream.

1           8.       (Currently amended) The system ~~device~~ of claim 7, wherein the  
2 statistics are periodically provided to a processor for display.

1           9.       (Original) A method for reassembling asynchronous transfer mode  
2 (ATM) data in real time, comprising:  
3           providing ATM data to a circular buffer, the ATM data comprising information  
4 divided into cells;  
5           storing the ATM data in the circular buffer;  
6           analyzing the ATM cells to determine a cell type, wherein ATM adaptation  
7 layer (AAL) 2 cells and AAL 5 cells are reassembled in real-time.

1           10.      (Currently amended) The method of claim 9, further comprising  
2 simultaneously communicating between the circular buffer and a ~~the~~ plurality of  
3 processing elements.

1           11.      (Currently amended) The method ~~system~~ of claim 10, further  
2 comprising receiving and storing data fragments associated with an ATM cell in a  
3 fragmentation table.

1           12.      (Original) The method of claim 11, further comprising:  
2           accumulating the data fragments in a buffer manager; and  
3           assembling the data fragments into a frame.

1           13.      (Original) The method of claim 12, further comprising storing statistics  
2 associated with the cells in a statistics memory.

1           14.      (Original) The method of claim 13, wherein the statistics are chosen  
2 from an idle cell, an unassigned cell, an operation and maintenance (OAM) cell, an

3 AAL 2 cell, an AAL 5 cell, a header error correction (HEC) error cell, a frame count, a  
4 byte count, congestion information, AAL5 CRC error count, and resource management  
5 (RM) cell count.

1 15. (Original) The method of claim 14, wherein the statistics are gathered  
2 for each unique VPI/VCI cell stream.

1 16. (Original) The method of claim 15, further comprising periodically  
2 providing the statistics to a processor for display.

1 17. (Currently amended) A computer readable medium having a program  
2 stored thereon for reassembling asynchronous transfer mode (ATM) data in real time,  
3 comprising:

4 logic for providing ATM data to a circular buffer, the ATM data comprising  
5 information divided into cells;

6 logic for storing the ATM data in the circular buffer;

7 logic for analyzing the ATM cells to determine a cell type, wherein ATM  
8 adaptation layer (AAL) 2 cells and AAL 5 cells are reassembled in real-time.

1 18. (Currently amended) The computer readable medium ~~program~~ of claim  
2 17, further comprising logic for simultaneously communicating between the circular  
3 buffer and ~~a~~ the plurality of processing elements.

1 19. (Currently amended) The computer readable medium ~~program~~ of claim  
2 18, further comprising logic for receiving and storing data fragments associated with an  
3 ATM cell in a fragmentation table.

1 20. (Currently amended) The computer readable medium ~~program~~ of claim  
2 19, further comprising:

3 logic for accumulating the data fragments in a buffer manager; and

4 logic for assembling the data fragments into a frame.

1           21.   (Currently amended) The computer readable medium ~~program~~ of claim  
2   20, further comprising storing statistics associated with the cells in a statistics memory.

1           22.   (Currently amended) The computer readable medium ~~program~~ of claim  
2   21, wherein the statistics are chosen from an idle cell, an unassigned cell, an operation  
3   and maintenance (OAM) cell, an AAL 2 cell, an AAL 5 cell, a header error correction  
4   (HEC) error cell, a frame count, a byte count, congestion information, AAL5 CRC  
5   error count, and resource management (RM) cell count..

1           23.   (Currently amended) The computer readable medium ~~program~~ of claim  
2   22, wherein the statistics are gathered for each unique VPI/VCI cell stream.

1           24.   (Currently amended) The computer readable medium ~~program~~ of claim  
2   23, further comprising logic for periodically providing the statistics to a processor for  
3   display.